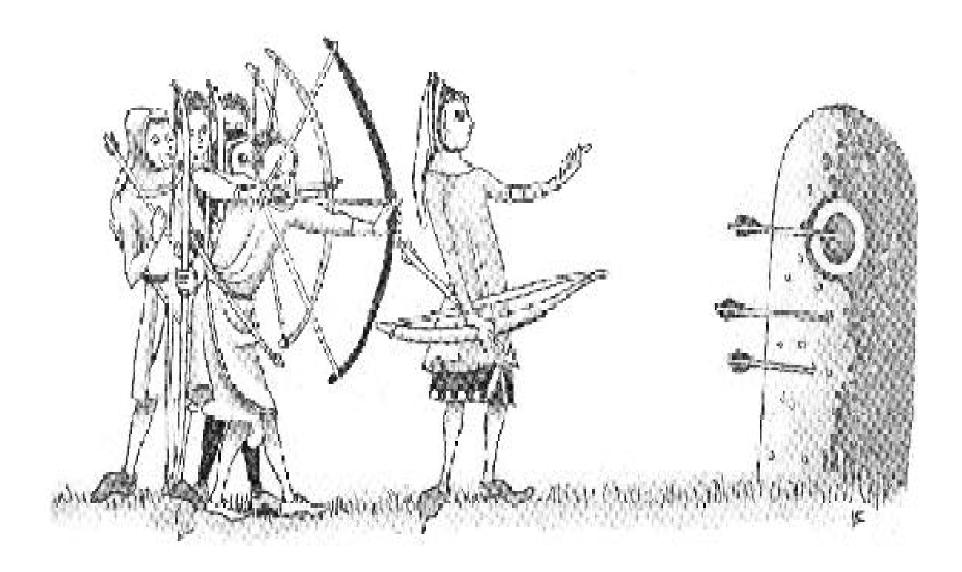
Precision Guided Weapons: The Longbow to the Sidewinder

Annual Precision Strike Program Review "Sensor to Target: Programs and Paradigms" March 29, 1999

Hans Mark
Director, Defense Research & Engineering

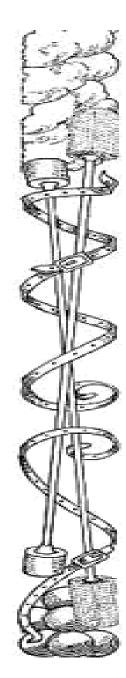




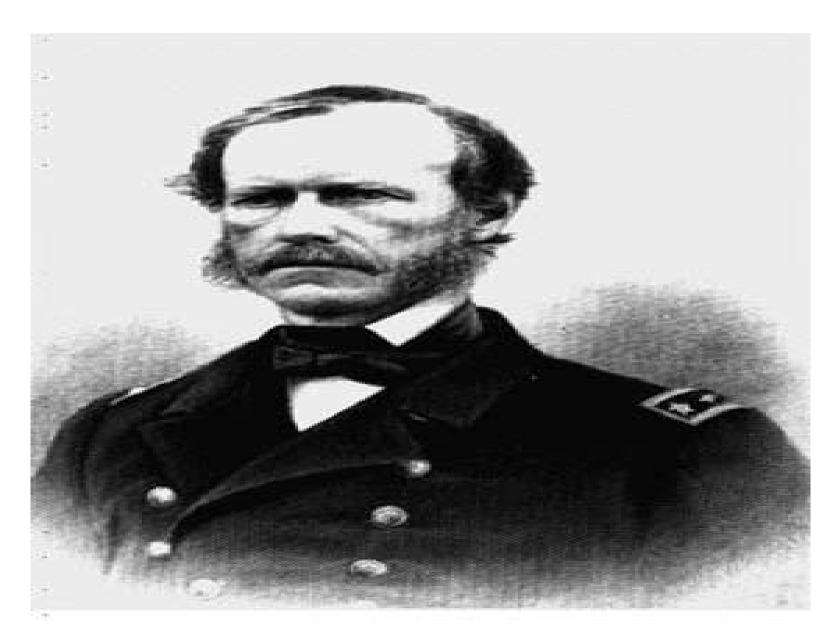
Archer with Longbow Recovered from the British 16th century warship, the Mary Rose



Captain Robert Parker Parrott, USA (1804-1877)



Rammer and Image of Rifling



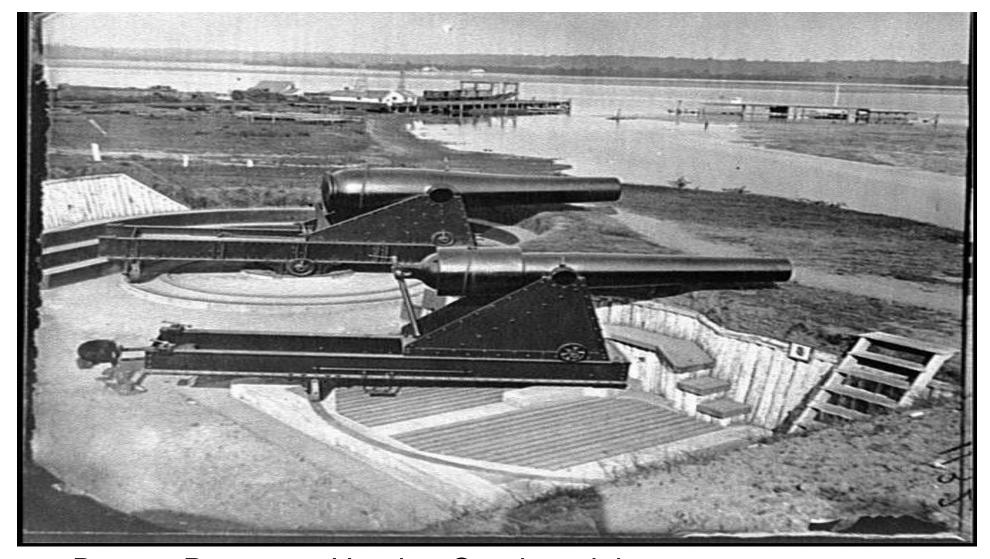
Rear Admiral John A. Dahlgren, USN (1809-1870)



Ft. Bradly, VA

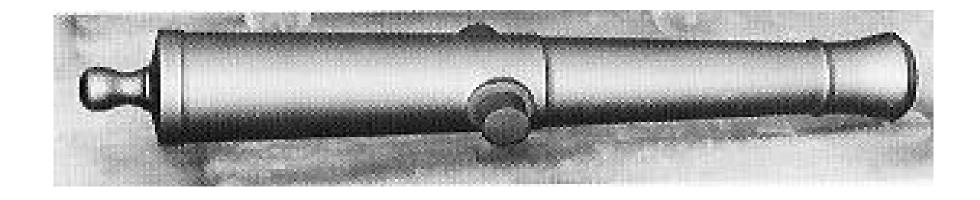
Battery of Parrott guns manned by
Connecticut Heavy Artillery

Company C, 1st

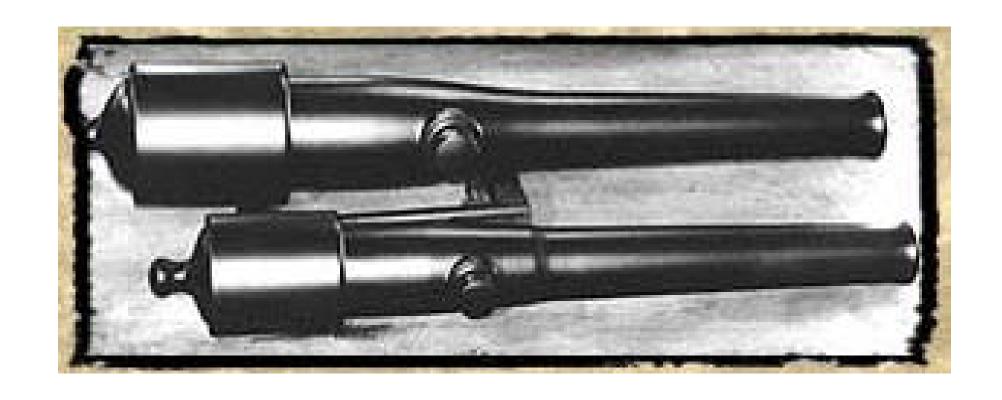


Battery Rogers at Hunting Creek and the Potomac, Alexandria, VA

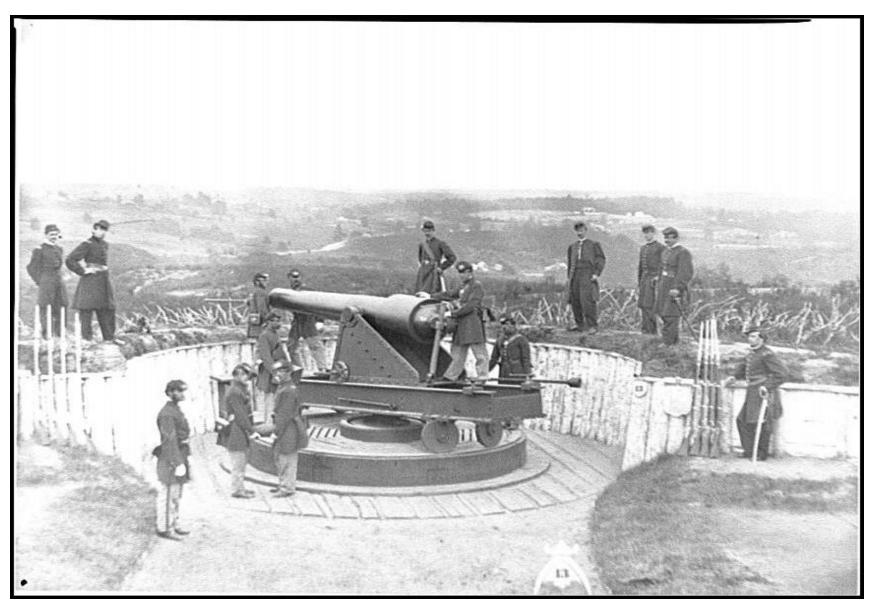
8-inch Parrott gun in the foreground Rodman gun beyond



6-pound Smoothbore gun



20-pound Parrott gun, weight approximately 1750 lbs. (top) 10-pound Parrott gun, weight approximately 900 lbs. (bottom)



Ft. Totten, D.C.
Officers of Companies A and B, 3rd Massachusetts Heavy
Artillery and crew
100-pound Parrott gun on iron barbette carriage



Fletcher-class destroyer USS Shields (DD 596) Commissioned 2/8/45



AIM-9 Sidewinder Missile Loading on an F-14

AIM-9 Sidewinder Missile Launched from F-16